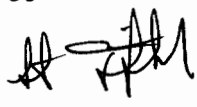


Fluor Hanford
WSCF Analytical Lab
P.O. Box 1000
Richland, WA 99352
Telephone 373-7495
Telefax 372-0456

FLUOR

Memorandum

To: H. Hampt E6-35 Date: M4W41-SLF-07-983
December 10, 2007

From: S. L. Fitzgerald, Manager 
WSCF Analytical Lab

cc: w/Attachments

T. F. Dale	S3-30	S. J. Trent	E6-35
H. K. Mezmarich	S3-30	D. D. Wright	S3-30
P. D. Mix	S3-30	File/LB	
J. E. Trechter	S3-30		

Subject: FINAL RESULTS FOR SAMPLE DELIVERY GROUP WSCF20071925 – SAF NUMBER F07-070

Reference: (1) Groundwater Protection Program-Letter of Instruction, FH-EIS-2003-MEM-001, October 31, 2002

(2) HNF-SD-CD-QAPP-017, Rev. 8, Waste Sampling & Characterization Facility Quality Assurance Plan

This letter contains the following information for sample delivery group WSCF20071925:

- Cover Sheet (Attachment 1)
- Narrative (Attachment 2)
- Analytical Results (Attachment 3)
- Sample Receipt Information (Attachment 4)

SLF/grf

Attachments 4

M4W41-SLF-07-983

ATTACHMENT 1

COVER SHEET

Consisting of 2 pages
Including cover page

WSCF SAF NUMBER CROSS REFERENCE

Group#: WSCF20071925
Data Deliverable Date: 10-dec-2007
Data Deliverable: Cover Sheet

SAF#	Sample ID	WSCF#	Matrix
F07-070	B1PMR0	W07GR02774	WATER

M4W41-SLF-07-983

ATTACHMENT 2

NARRATIVE

Consisting of 2 pages
Including cover page

Introduction

One groundwater sample was received at the WSCF Laboratory on October 25 2007. Sample was analyzed for the analytes indicated on the attached copy of the chain of custody (COC) form in accordance with the *Groundwater Remediation Program – Letter of Instruction*, referenced in the cover letter.

The narrative (Attachment 2) will address sample characteristics, analyses requested and general information in performance of the analytical methods. A Data Summary Report (Attachment 3) includes analytical results, a comment report detailing method abnormalities, tentatively identified peaks if applicable, method references, and Laboratory QC information as applicable. Copies of the chain of custody and sample receipt documentation are included as Attachment 4.

It should be noted that the attached chain of custody was stamped “iced” and initialed by the WSCF Laboratory Sample Custodian during sample receiving, indicating the presence of ice in the sample container.

Analytical Methodology for Requested Analyses

Refer to *WSCF Method References Report*, page 9 or a complete listing of approved analytical methods.

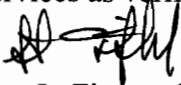
Organic Comments

VOA – The holding time requirement for this analysis was met. A Matrix Spike, Matrix Spike Duplicate, Blank and Laboratory Control Sample, were analyzed with this delivery group per the GRP Letter of Instruction. See pages 12 through 14 for details.

- Matrix Spike and Matrix Spike Duplicate analyzed on sample # B1PMP9 (SDG20071914, SAF F07-070)

All QC controls are within the established limits.

I certify that this data package is in compliance with the LOI, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Analytical Manager and Client Services as verified by the following signatures.


Scot L. Fitzgerald
WSCF Analytical Laboratory Manager


John E. Trechter
WSCF Client Services

M4W41-SLF-07-983

ATTACHMENT 3

ANALYTICAL RESULTS

Consisting of 9 pages
Including cover page

WSCF ANALYTICAL RESULTS REPORT

for
Groundwater Remediation Program

Richland, WA 99354

Attention: Steve Trent

Analytical:

W. S. Fitzgerald 12/10/07

Client Services:

John Trevelyan John Trevelyan 12/10/07

All results are reported on an "as received" basis unless otherwise noted in the comment section.

This information is intended for the use of the addressee only. If the reader of this report is not the intended recipient or is not authorized by the recipient to receive the report, you are hereby notified that any dissemination, distribution or copying of this report is strictly prohibited. If you have received this report in error, please notify WSCF Laboratory immediately by telephone at (509) 373-7020 or (509) 531-8004. Information designation of this report is the responsibility of the customer.

Contract#: FH-EIS-2003-MEM-001
Report#: WSCF20071925
Report Date: 4-dec-2007
Report WGPP/ver. 5.2
Groundwater Remediation Program

Department: Organic

W13q Worklist/Batch/QC Report for Group# WSCF20071925

WL#	S#	Batch	QC#	Tray Type	Sample#	Test
			38938	BLANK		VOA Ground Water Protection
			38938	LCS		VOA Ground Water Protection
			38938	MS	W07GR02733	VOA Ground Water Protection
			38938	MSD	W07GR02733	VOA Ground Water Protection
			38938	SPK-RPD	W07GR02733	VOA Ground Water Protection
			38938	SAMPLE	W07GR02774	VOA Ground Water Protection
			38938	SURR	W07GR02774	VOA Ground Water Protection

The results provided in this report were generated using the following WSCF Laboratory procedures. For your convenience, this table provides a listing of the regulatory or industry methods that are referenced by each of these WSCF procedures. Please note that the most recent version of the regulatory or industry method is listed here even though the WSCF procedure may reference an older version of the method. Also, a reference to a regulatory or industry method here does not necessarily indicate a verbatim implementation of that method.

LA-523-455	LA-523-455: VOLATILE SAMPLE ANALYSIS BY SW-846
EPA SW-846 8000B	DETERMINATIVE CHROMATOGRAPHIC SEPARATIONS
EPA SW-846 8260B	VOLATILE ORGANIC COMPOUNDS BY GAS CHROMATOGRAPHY/MASS SPECTROMETRY (GC/MS)
HEIS 8260_VOA_GCMS	Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)

Note: A complete list of WSCF analytical procedures and referenced regulatory or industry methods is available online at <http://www2.rl.gov/phmc/as-dol>.

WSCF

ANALYTICAL RESULTS REPORT

Attention: Steve Trent SAF Number: F07-070 Sample # W07GR02774 Client ID: B1PMR0	TRENT WSCF	Matrix: WATER Group #: WSCF20071925 Department: Organic Sampled: 10/25/07 Received: 10/25/07
---	-----------------------------	---

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
VOA Ground Water Protection											
1,1-Dichloroethene	75-35-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
Trichloroethene	79-01-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
Benzene	71-43-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
Toluene	108-88-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
Chlorobenzene	108-90-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
1,1-Dichloroethane	75-34-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
Ethylbenzene	100-41-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
Styrene	100-42-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
cis-1,3-Dichloropropene	10061-01-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
trans-1,3-Dichloropropene	10061-02-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
1,2-Dichloroethane	107-06-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
4-Methyl-2-Pentanone	108-10-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
Dibromochloromethane	124-48-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
Tetrachloroethene	127-18-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
Xylenes (total)	1330-20-7	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
1,2-Dichloroethene(Total)	540-59-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
Carbon tetrachloride	56-23-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
2-Hexanone	591-78-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
Acetone	67-64-1	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
Chloroform	67-66-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
1,1,1-Trichloroethane	71-55-6	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
Bromomethane	74-83-9	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
1,1,2,2-Tetrachloroethane	79-34-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
Chloromethane	74-87-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07

MDL = Minimum Detection Limit U - Analyzed for but not detected above limiting criteria.(org)

RQ= Result Qualifier

TP Err = Total Propagated Error

DF= Dilution Factor

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

Report WGGP/ver. 5.2

Groundwater Remediation Program

WSCF ANALYTICAL RESULTS REPORT

Attention: Steve Trent SAF Number: F07-070 Sample # W07GR02774 Client ID: B1PMR0 TRENT WSCF	Matrix: WATER	Group #: WSCF20071925 Department: Organic Sampled: 10/25/07 Received: 10/25/07
--	----------------------	---

Test Performed	CAS #	Method	RQ	Result	Unit	TP Err	Unit	DF	MDL	PQL	Analysis Date
Chloroethane	75-00-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
Vinyl chloride	75-01-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
Methylenechloride	75-09-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
Carbon disulfide	75-15-0	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
Bromoform	75-25-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
Bromodichloromethane	75-27-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
1,2-Dichloropropane	78-87-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
2-Butanone	78-93-3	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
1,1,2-Trichloroethane	79-00-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
1-Butanol	71-36-3	LA-523-455	U	< 100	ug/L			1.00	1.0e+02		11/05/07
Trichloromonofluoromethane	75-69-4	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
n-Butylbenzene	104-51-8	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
trans-1,2-Dichloroethylene	156-60-5	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07
cis-1,2-Dichloroethylene	156-59-2	LA-523-455	U	< 1.00	ug/L			1.00	1.0		11/05/07

MDL = Minimum Detection Limit U - Analyzed for but not detected above limiting criteria.(org)

RQ = Result Qualifier

TP Err = Total Propagated Error

DF = Dilution Factor

* - Indicates results that have NOT been validated; + - Indicates more than six qualifier symbols

Report WGPP/ver. 5.2

Groundwater Remediation Program

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071925

Matrix: WATER

Test: VOA Ground Water Protection

Sample Date: 10/24/07

Receive Date: 10/24/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
Lab ID: W07GR02733 BATCH QC ASSOCIATED WITH SAMPLE											
MS	1,1-Dichloroethene	75-35-4	28.180	113.000	% Recov	63.000	117.000				11/05/07
MS	Benzene	71-43-2	25.330	101.000	% Recov	75.000	129.000				11/05/07
MS	4-Bromofluorobenzene(Surr)	460-00-4	49.460	98.900	% Recov	75.000	125.000				11/05/07
MS	Chlorobenzene	108-90-7	26.810	107.000	% Recov	79.000	119.000				11/05/07
MS	1,2-Dichloroethane-d4(Surr)	17060-07-0	51.170	102.000	% Recov	75.000	125.000				11/05/07
MS	Toluene-d8(Surr)	2037-26-5	46.350	92.700	% Recov	75.000	125.000				11/05/07
MS	Toluene	108-88-3	25.920	104.000	% Recov	76.000	120.000				11/05/07
MS	Trichloroethene	79-01-6	23.050	92.200	% Recov	73.000	123.000				11/05/07
MSD	1,1-Dichloroethene	75-35-4	28.250	113.000	% Recov	63.000	117.000				11/05/07
MSD	Benzene	71-43-2	25.590	102.000	% Recov	75.000	129.000				11/05/07
MSD	4-Bromofluorobenzene(Surr)	460-00-4	49.690	99.400	% Recov	75.000	125.000				11/05/07
MSD	Chlorobenzene	108-90-7	27.150	109.000	% Recov	79.000	119.000				11/05/07
MSD	1,2-Dichloroethane-d4(Surr)	17060-07-0	50.910	102.000	% Recov	75.000	125.000				11/05/07
MSD	Toluene-d8(Surr)	2037-26-5	46.060	92.100	% Recov	75.000	125.000				11/05/07
MSD	Toluene	108-88-3	25.790	103.000	% Recov	76.000	120.000				11/05/07
MSD	Trichloroethene	79-01-6	22.970	91.900	% Recov	73.000	123.000				11/05/07
SPK-RPD	1,1-Dichloroethene	75-35-4	113.000		RPD			0.000	20.000		11/05/07
SPK-RPD	Benzene	71-43-2	102.000		RPD			0.985	20.000		11/05/07
SPK-RPD	Chlorobenzene	108-90-7	109.000		RPD			1.852	20.000		11/05/07
SPK-RPD	1,2-Dichloroethane-d4(Surr)	17060-07-0	102.000		RPD			0.000	20.000		11/05/07
SPK-RPD	Toluene-d8(Surr)	2037-26-5	92.100		RPD			0.649	20.000		11/05/07
SPK-RPD	Toluene	108-88-3	103.000		RPD			0.966	20.000		11/05/07
SPK-RPD	Trichloroethene	79-01-6	91.900		RPD			0.326	20.000		11/05/07

Lab ID: W07GR02774
BATCH QC ASSOCIATED WITH SAMPLE

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071925

Matrix: WATER

Test: VOA Ground Water Protection

Sample Date: 10/25/07

Receive Date: 10/25/07

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
SURR	4-Bromofluorobenzene(Surr)	460-00-4	48.300	96.600	% Recov	75.000	125.000				11/05/07
SURR	1,2-Dichloroethane-d4(Surr)	17060-07-0	50.510	101.000	% Recov	75.000	125.000				11/05/07
SURR	Toluene-d8(Surr)	2037-26-5	46.980	94.000	% Recov	75.000	125.000				11/05/07
BATCH QC											
BLANK	1,1-Dichloroethane	75-34-3	< 1.0	n/a	ug/L					U	11/05/07
BLANK	1,1,1-Trichloroethane	71-55-6	< 1.0	n/a	ug/L					U	11/05/07
BLANK	1,1,2-Trichloroethane	79-00-5	< 1.0	n/a	ug/L					U	11/05/07
BLANK	1,1,2,2-Tetrachloroethane	79-34-5	< 1.0	n/a	ug/L	0.000	5.000			U	11/05/07
BLANK	1,1-Dichloroethene	75-35-4	< 1.0	n/a	ug/L					U	11/05/07
BLANK	1,2-Dichloroethane	107-06-2	< 1.0	n/a	ug/L					U	11/05/07
BLANK	1,2-Dichloroethene(Total)	540-59-0	< 1.0	n/a	ug/L					U	11/05/07
BLANK	1-Butanol	71-36-3	< 100	n/a	ug/L					U	11/05/07
BLANK	2-Hexanone	591-78-6	< 1.0	n/a	ug/L					U	11/05/07
BLANK	4-Methyl-2-Pentanone	108-10-1	< 1.0	n/a	ug/L					U	11/05/07
BLANK	Acetone	67-64-1	< 1.0	n/a	ug/L					U	11/05/07
BLANK	Bromodichloromethane	75-27-4	< 1.0	n/a	ug/L					U	11/05/07
BLANK	Benzene	71-43-2	< 1.0	n/a	ug/L					U	11/05/07
BLANK	4-Bromofluorobenzene(Surr)	460-00-4	51.450	103.000	% Recov	75.000	125.000				11/05/07
BLANK	Bromoform	75-25-2	< 1.0	n/a	ug/L					U	11/05/07
BLANK	n-Butylbenzene	104-51-8	< 1.0	n/a	ug/L					U	11/05/07
BLANK	Carbon disulfide	75-15-0	< 1.0	n/a	ug/L					U	11/05/07
BLANK	Carbon tetrachloride	56-23-5	< 1.0	n/a	ug/L					U	11/05/07
BLANK	Dibromochloromethane	124-48-1	< 1.0	n/a	ug/L					U	11/05/07
BLANK	Chloroform	67-66-3	< 1.0	n/a	ug/L					U	11/05/07
BLANK	Chlorobenzene	108-90-7	< 1.0	n/a	ug/L					U	11/05/07
BLANK	cis-1,2-Dichloroethylene	156-59-2	< 1.0	n/a	ug/L					U	11/05/07
BLANK	cis-1,3-Dichloropropene	10061-01-5	< 1.0	n/a	ug/L					U	11/05/07
BLANK	Chloroethane	75-00-3	< 1.0	n/a	ug/L					U	11/05/07
BLANK	1,2-Dichloroethane-d4(Surr)	17060-07-0	52.450	105.000	% Recov	75.000	125.000				11/05/07

WSCF ANALYTICAL LABORATORY QC REPORT

Department: Organic

SDG Number: WSCF20071925

Matrix: WATER

Test: VOA Ground Water Protection

Sample Date:
Receive Date:

QC Type	Analyte	CAS #	QC Found	QC Yield	Units	Lower Limit	Upper Limit	RPD(%)	RPD Limit	RQ	Analysis Date
BLANK	trans-1,2-Dichloroethylene	156-60-5	< 1.0	n/a	ug/L					U	11/05/07
BLANK	1,2-Dichloropropane	78-87-5	< 1.0	n/a	ug/L					U	11/05/07
BLANK	Ethylbenzene	100-41-4	< 1.0	n/a	ug/L					U	11/05/07
BLANK	Bromomethane	74-83-9	< 1.0	n/a	ug/L					U	11/05/07
BLANK	Chloromethane	74-87-3	< 1.0	n/a	ug/L					U	11/05/07
BLANK	2-Butanone	78-93-3	< 1.0	n/a	ug/L					U	11/05/07
BLANK	Methylenechloride	75-09-2	< 1.0	n/a	ug/L					U	11/05/07
BLANK	Tetrachloroethene	127-18-4	< 1.0	n/a	ug/L					U	11/05/07
BLANK	Styrene	100-42-5	< 1.0	n/a	ug/L					U	11/05/07
BLANK	Xylenes (total)	1330-20-7	< 1.0	n/a	ug/L	0.000	5.000			U	11/05/07
BLANK	Toluene-d8(Surr)	2037-26-5	46.670	93.300	% Recov	75.000	125.000			U	11/05/07
BLANK	Toluene	108-88-3	< 1.0	n/a	ug/L					U	11/05/07
BLANK	trans-1,3-Dichloropropene	10061-02-6	< 1.0	n/a	ug/L					U	11/05/07
BLANK	Trichloromonomofluoromethane	75-69-4	< 1.0	n/a	ug/L					U	11/05/07
BLANK	Trichloroethene	79-01-6	< 1.0	n/a	ug/L	0.000	5.000			U	11/05/07
BLANK	Vinyl chloride	75-01-4	< 1.0	n/a	ug/L					U	11/05/07
LCS	1,1-Dichloroethene	75-35-4	24.760	99.000	% Recov	75.000	125.000			U	11/05/07
LCS	Benzene	71-43-2	24.650	98.600	% Recov	75.000	125.000			U	11/05/07
LCS	4-Bromofluorobenzene(Surr)	460-00-4	47.770	95.500	% Recov	75.000	125.000			U	11/05/07
LCS	Chlorobenzene	108-90-7	25.690	103.000	% Recov	75.000	125.000			U	11/05/07
LCS	1,2-Dichloroethane-d4(Surr)	17060-07-0	49.340	98.700	% Recov	75.000	125.000			U	11/05/07
LCS	Toluene-d8(Surr)	2037-26-5	47.540	95.100	% Recov	75.000	125.000			U	11/05/07
LCS	Toluene	108-88-3	24.740	99.000	% Recov	75.000	125.000			U	11/05/07
LCS	Trichloroethene	79-01-6	19.890	79.600	% Recov	75.000	125.000			U	11/05/07

M4W41-SLF-07-983

ATTACHMENT 4

SAMPLE RECEIPT INFORMATION

Consisting of 3 pages
Including cover page

Waste Sampling and Characterization Facility

P.O. BOX 1970 S3-30, Richland, WA 99352

PHONE: (509) 373-7004/FAX: (509) 373-7134

File

ACKNOWLEDGMENT OF SAMPLES RECEIVED

12/10/07

td

Groundwater Remediation Program

Customer Code: GPP

Richland, WA 99354

PO#: 123262/ES10

Attn: Steve Trent

Group#: 20071925

Project#: F07-070

Proj Mgr: Steve Trent E6-35

Phone: 373-5869

The following samples were received from you on 10/25/07. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using Waste Sampling and Characterization Facility.

Sample#	Sample Id	Tests Scheduled	Matrix	Sample Date
W07GR02774	B1PMR0	TRENT @VOA-GPP	Water	10/25/07

Test Acronym Description

Test Acronym	Description
@VOA-GPP	VOA Ground Water Protection

ICE CHEST NO.	FIELD LOGBOOK NO.	COA	METHOD OF SHIPMENT
		123262ES10	GOVERNMENT VEHICLE
SHIPPED TO	OFFSITE PROPERTY NO.		BILL OF LADING/AIR BILL NO.
Waste Sampling & Characterization	N/A		N/A

	NO. OF CONTAINER(S)	VOLUME
4		40mL

L= Liquid
 O= Oil
 S= Soil
 SE= Sediment
 T= Tissue

[illegible]

RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
RELINQUISHED BY/REMOVED FROM	DATE/TIME	RECEIVED BY/STORED IN	DATE/TIME
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